IN THE CLAIMS:

1   1.   (currently amended) An electrically conductive composition which

2   comprises:

3   a plurality of cross-linked polymeric complexes; each polymeric complex

4   comprising:

5   a strand of a π-conjugated polymer; and

6   a strand of a polyelectrolyte, the polyelectrolyte being non-covalently bonded to

7   the π-conjugated polymer and having at least one reactive functional group, the reactive

8   functional group facilitating the cross-linkage between the polymeric complexes when

9   the complexes are heated, the composition resisting swelling when exposed to an aqueous

10   medium.

1   2.   (original) The composition of claim 1 wherein the π-conjugated polymer is

2   selected from the group consisting of polyaniline, polypyrrole, polyacetylene and

3   polythiophene.

1   3.   (original) The composition of claim 2 wherein the polyelectrolyte is selected from

2   the group consisting of poly(butadiene-co-maleic acid), poly(vinylmethylether-co-maleic

3   acid), poly(acrylic acid), poly(ethylmethacrylate-co-acrylic acid) and poly(acrylamide-

4   co-acrylic acid).

1   4.   (original) The composition of 3 wherein the polyelectrolyte has a backbone and

2   the functional group comprises:

3   at least one unsaturated double bond in the polymer backbone of the

4   polyelectrolyte.

1   5.   (original) The composition of claim 4 wherein the functional group comprises at

2   least one pendent group selected from the group consisting of carboxylic acid groups,

3   hydroxy groups, amine groups, amide groups , nitrile groups, aldehyde groups and ketone

4   groups.

1   6.   (original) The composition of claim 5 wherein there are at least two functional

2   groups and each functional group reacts with each other or optionally with each other and

3   a functional group from other polymeric complexes or optionally with each other and

4   with the functional groups of other polymeric complexes.

1   7.   (original) The composition of claim 6 wherein the polymeric complexes are water-

2   borne or optionally are dispersible in organic solvents.